

## **PROPOSAL FOR WORK**



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## **PROPOSAL**

### **PHASE I & II CULTURAL RESOURCE SURVEY CAPITOL TRAIL (SR 2)/POSSUM PARK ROAD (SR 72) - INTERSECTION IMPROVEMENTS, NEW CASTLE COUNTY, DELAWARE**

## **INTRODUCTION**

This technical proposal and cost estimate is submitted by the Rutgers University Center for Public Archaeology at the request of Kevin Cunningham, Archaeologist, Location and Environmental Studies Office, Division of Highways, Delaware Department of Transportation. It is proposed that a combined Phase I/Phase II cultural resource survey be conducted as part of the proposed Capitol Trail (SR 2)/Possum Park Road (SR 72) intersection improvements project in New Castle County, Delaware. These Phase I/Phase II investigations will involve background research, a field reconnaissance survey, a program of subsurface testing designed to determine the presence or absence of significant archaeological remains and to assess their potential eligibility to the National Register of Historic Places, and the production of a report that will include relevant data along with appropriate evaluations, conclusions, and recommendations. The goal of this cultural resource survey will be the identification and definition of any potentially eligible prehistoric or historic archaeological features within the proposed project area.

The proposed project involves improvements at the intersection of Possum Park Road (SR 72) with Capitol Trail (SR 2) in the Windy Hills section of New Castle County, just to the east of the City of Newark. A project area of approximately 2 acres sited on the east and west sides of Possum Park Road and a short distance to the north of Capitol Trail has been delineated. An unnamed creek flows southward through the project area along the east side of Possum Park Road to its confluence with Middle Run, which runs westward through the southern end of the project area. The majority of the section of the project area to the east of Possum Park Road is

currently an unpaved parking area, while the section to the west of the road is characterized by dense brush.

## **RESEARCH DESIGN**

### **Discussion**

The Possum Park Road project area is located along the fall line at the interface between the High Coastal Plain and the Piedmont Uplands physiographic provinces and is characterized by low relief terraces overlooking the confluence of Middle Run and an unnamed tributary. The confluence of Middle Run and White Clay Creek is located roughly 600 feet to the south of the project area. Although no prehistoric sites have been reported within 5500 feet of the project area, it is located very near the border between those regions denoted as having high and medium site densities within the management plan for Delaware's prehistoric cultural resources (Custer 1986). In addition, the project area is located on the border between areas of "Medium/High Significance Probability, Medium Data Quality, Medium/Low Numbers of Known Sites" (Zone II), and areas with "Medium/High Significance Probability, High Data Quality, High Numbers of Known Sites (Zone III).

Known sites in the general vicinity of the Possum Park Road project area are situated within areas of low elevation in the White Clay Creek Valley, along both the creek and its tributaries. The uplands to the north of the creek are devoid of identified archaeological sites. The presence of a stream confluence within the project location and a larger confluence just to the south of the project area suggests that this setting may have been attractive for Native American exploitation. A few small flakes were, in fact, noted in the bank of Middle Run within the project area during a field visit by DelDOT's Archaeologist. It was not clear, however, whether these flakes were eroding out of the creek bank or had washed down slope from the terrace surface.

The project area lies within three miles of the Delaware Chalcedony Complex, a cryptocrystalline lithic resource site used throughout the prehistoric period and particularly noteworthy as a focus of Paleo-Indian activity. Utilizing the settlement patterns devised for the Paleo-Indian study unit, the project area would appear suitable for a quarry-related base camp as it is located at a confluence with a southern exposure and is situated in a setting with easy access to upland resources as well as to those in the floodplain of White Clay Creek. Archaic period settlement models for the Piedmont uplands suggest that the project area may have been the location of a procurement site or even possibly a micro-band base camp, with similar site types possible during the

Woodland I period. During the Woodland II period a procurement site seems most likely, as the proximity of the White Clay Creek valley and its obvious attractiveness for prehistoric settlement might have obviated the need for a micro-band camp within the project area (Custer 1986).

Possum Park Road was in place as a local connector between this section of the White Clay Creek valley and the Milford Crossroads area by the mid-19th century. The original course of this road in the vicinity of Capitol Trail is currently occupied by Old Possum Park Road, sited to the east of the project area. The present Possum Park Road was laid out during the 20th century in an effort to straighten the course of this roadway. A preliminary examination of 19th century maps has provided no evidence of primary historic period structures within the project area. Additionally, no historic period sites are included within the cultural resource inventory maintained by the Bureau of Archaeology and Historic Preservation.

### **Background Research**

The initial task in this investigation will involve the examination of various sources of information on the environmental setting, prehistory, and history of the project area. This information will allow for a more accurate assessment as to the potential presence of prehistoric and/or historic sites and features within the project area. It will also provide the data necessary to place the project area in its appropriate regional environmental and cultural context. Specific background research tasks will include the following:

- the examination of various sources dealing with the local and regional environmental setting for data relative to past and present environments, topography, soils, hydrology, geology, and vegetation.
- the examination of materials held by the Location and Environmental Studies Office of the Department of Transportation's Division of Highways.
- the examination of materials held by the Bureau of Archaeology and Historic Preservation, notably the state-wide inventory of cultural resources, cultural resource survey reports, and materials relating to the National Register of Historic Places.
- the examination of secondary sources relative to the local and regional prehistory and history of the project vicinity.

- the examination of all appropriate historic maps and selected primary documentary resources for data relative to the project area.
- the collection of pertinent information from local historical societies, knowledgeable local informants, and other local sources of information.

### **Field Survey**

With the completion of the pre-field portion of the background research accumulated information will be analyzed in preparation for the field reconnaissance survey. The entire project area will then be systematically surveyed for surface indications of archaeological remains. Soils will be examined using a soil probe to preliminarily assess their composition and depth and their potential for containing archaeological remains. A full analysis of the cultural landscape will be conducted, with surface indications of archaeological sites, architectural features, and zones of disturbance all receiving attention. All of these locations, along with any other elements associated with the cultural resources of the project area that are encountered, will be systematically mapped, photographed, and fully described. Any artifacts recovered will be plotted on site maps, bagged individually, and transported to the Center's laboratory for processing and analysis.

The subsurface testing strategy for the Phase I element of this work effort will comprise the excavation of shovel tests at 15 meter intervals within the project area (approximately 17 per acre). Additional shovel tests will be employed in the event of artifact discovery. These additional tests will be placed around the test that yielded artifactual material in order to better define the horizontal and vertical extent and integrity of the deposit. The testing interval will be reduced in areas along stream edges and in other locations that appear likely to contain prehistoric remains to assure adequate sampling in these high probability areas. It is anticipated that this program of testing, which will involve up to 50 shovel tests, will provide the coverage necessary to allow for the identification of any prehistoric and/or historic archaeological resources within the project area.

In the event of the discovery of artifacts in undisturbed archaeological contexts a Phase II program of testing will be implemented in order to establish their potential eligibility for nomination to the National Register of Historic Places. This effort will involve the excavation of four test units. These units will be excavated in 10 centimeter levels within natural soil horizons. Disturbed soils, including plowzone or fill deposits, will be excavated as a single level. A single page public information handout on DelDOT letterhead will be created prior to

the commencement of field work and made available to visitors and interested parties in the field.

As described above, this program of subsurface testing will involve the excavation of shovel tests (to be 0.5 meter square) and test units (to be one meter square). These will be supplemented by soil auger borings and by the use of metal probes. The soil borings will provide data relative to the composition of project area soils, their depositional history, and the extent of any natural and modern human alterations. Metal probes will be used to assist in the identification of buried archaeological features such as foundation walls and stone-boiling dumps. The locations of all shovel tests and test units will be clearly indicated on the project area base map. All tests will be excavated to the maximum depth of potentially artifact-bearing strata. All soils will be sifted through 1/4" hardware mesh. Artifacts and/or cultural features (fire hearths, refuse pits, foundation ruins, etc.) will be provenienced by the shovel test number and soil horizon(s) in which they occur. Profile summaries for all tests will be documented on specially designed forms and will include Munsell designations and descriptions of soil color, texture, and composition.

### **Analysis**

Information on the environmental and cultural history of the project area gathered during the background research phase will be evaluated within the framework of current models of prehistoric and historic human subsistence, settlement, social organization and land use. Data accumulated during the field reconnaissance survey and the subsurface testing phases will then be analyzed within the context of this framework. All prehistoric and historic artifacts recovered during the surface reconnaissance and subsurface testing programs will be washed and labeled with provenience information. They will then be classified according to their relative ages, cultural affiliations, material, and function. If appropriate, a representative selection of artifacts will be photographed and/or drawn for inclusion in the final report.

### **Report Preparation**

The final phase of this proposed work effort will involve the preparation of a final report. Report preparation will commence with the completion of a draft report for submission to the client. It is anticipated that this draft report will be reviewed by the client, with revisions and the production of the final report to follow. The client will receive one copy of the draft report with original plates. This document will meet the standards set for archaeological reports by the Delaware State Historic Preservation Office and will include the following sections:

- Title Page - providing the title, project level, location, author(s) and organization, client, and date of completion.
- Management Summary - providing a summary of the project type, location, and size, the review authority, methodology, results, evaluations, impacts, and recommendations.
- Table of Contents and Lists of Figures, Plates, Tables, and Appendices, as appropriate.
  
- Introduction - providing basic background information relative to the survey, including a summary of the scope of work, a discussion of applicable regulations, the reviewing agency, and project administration, project location, and a brief description of the project.
- Environmental Setting - providing summaries of the topography, geology, soils, vegetation, and past and present land uses within the project area.
- Previous Research - providing a review of any previous studies dealing with cultural resources within and adjacent to the project area.
- Cultural History - providing brief overviews of the prehistory and the history of the project area and, as appropriate, more detailed site-specific historical data for significant historic sites - copies of historic maps will be included within this section.
- Field Investigations - providing a review of the field work completed within the project area - this section of the report will include a research design, a methodology, inventories of identified prehistoric and historic archaeological sites and features - identified sites and features will be mapped and represented photographically.
- Conclusions and Recommendations - providing statements relative to the significance of any identified cultural resources and evaluations as to their potential National Register eligibility - if eligible cultural resources are identified, a mitigation/data recovery plan, to include a research design, budget, and schedule, will be prepared.
- References - providing a listing of all sources consulted during the course of the study.

- Appendices - providing resumes for key personnel involved in the completion of the study and, as appropriate, National Register of Historic Places nomination forms, representative test and unit profiles, artifact catalogs, and other necessary supporting materials.

#### **SCHEDULE**

The Center will commence work within two weeks of the receipt of written notification to proceed and will submit the completed draft report within six weeks of project commencement.